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WHITHAM, CURTIS & CHRISTOFFERSON, P.C.  
11491 SUNSET HILLS ROAD  
SUITE 340  
RESTON, VA 20190

EXAMINER

VO, HUYEN X

ART UNIT PAPER NUMBER

2655

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/994,795

Applicant(s)

NUMA, TAKAYUKI

Examiner

Huyen X. Vo

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harif (US 6820056) in view of Norris (US 5280524).

3. Regarding claims 1 and 7, Harif discloses a method and system for inputting an instruction to operate a computer, comprising the steps of: retrievably storing a plurality of registered sounds in a memory (*sound commands 52 in figure 2*), each of the registered sounds corresponding to a different instruction (*col. 5, lines 1-65*); searching the memory for an instruction using the input sound as a key (*elements 84-88 in figure 7 and/or referring to col. 6, lines 30-43*); and determining the instruction to operate the computer (*elements 84-88 in figure 7 and/or referring to col. 6, lines 30-43*); wherein the user may operate the computer without using voices (*the system of figure 2 recognizes both voice and non-voice commands*).

Harif fails to specifically disclose the step of inputting an input sound through the bone conduction microphone, wherein the bone conduction microphone has picked up the sound produced in the oral cavity of the user. However, Norris teaches the step of inputting an input sound through the bone conduction microphone, wherein the bone

conduction microphone has picked up the sound produced in the oral cavity of the user (*bone conduction microphone/speaker 10 in figures 1-2 and 4*).

Since Harif and Norris are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Harif by incorporating the teaching of Norris in order to reduce introduction of external noise to the signal of interest.

4. Regarding claims 2-4, Harif further discloses the method according to claim 1, wherein each of the registered sounds stored in the memory is determined by at least one predetermined unit sound which is allowed to be produced in the oral cavity of the user (*the comparison step 55 in figure 2*), wherein each of the registered sounds stored in the memory is determined by a combination of said at least one predetermined unit sound produced for a predetermined time period after a first unit sound has been produced (*the comparison step 55 in figure 2*), wherein each of the registered sounds is produced by one of teeth-clicking and tongue-moving (*col. 4, lines 38-44*).

5. Claims 6 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harif (US 6820056) in view of Norris (US 5280524), as applied to claims 1 and 7 respectively, and further in view of Tognazzini (US 5790974).

6. Regarding claims 6 and 9, the modified Harif fails to specifically disclose the method and system according to claims 1 and 7, wherein the computer has a calling

function of making a call, wherein the instruction to the computer is to make a call to a predetermined destination. However, Tognazzini further teaches that the computer has a calling function of making a call, wherein the instruction to the computer is to make a call to a predetermined destination (*figures 4a-c or col. 11, ln. 1 to col. 14, ln. 39*).

Since the modified Harif and Tognazzini are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Harif by incorporating the teaching of Tognazzini in order to automatically update and notify the user of his schedule.

7. Regarding claim 10, Harif further discloses a system according to claim 7, further comprising: a memory storing a plurality of programs, wherein the processor selects one of the programs depending on the instruction and executes the selected program (*col. 3, lines 19-67*).

8. Regarding claim 11, the modified Harif further discloses a system according to claim 10, further comprising a communication section for making a call (*col. 2, line 64 to col. 3, line 2*), but fails to specifically disclose that the programs includes a telephone-calling program including a predetermined message, wherein the telephone-calling program is selected by the processor to make a call to send the predetermined message to a predetermined destination depending on the instruction.

However, Tognazzini teaches that the programs include a telephone-calling program including a predetermined message, wherein the telephone-calling program is

selected by the processor to make a call to send the predetermined message to a predetermined destination depending on the instruction (*figures 4a-c or referring to col. 11, line 1 to col. 14, line 39*).

Since the modified Harif and Tognazzini are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Harif by incorporating the teaching of Tognazzini in order to automatically update and notify the user of his schedule.

9. Regarding claim 12, the modified Harif fails to disclose a system according to claim 11, further comprising: a GPS receiver for receiving GPS signals to obtain geographical location information, wherein the predetermined message with the geographical location information is sent to the predetermined destination. However, Tognazzini further teaches a GPS receiver for receiving GPS signals to obtain geographical location information, wherein the predetermined message with the geographical location information is sent to the predetermined destination (*figures 4a-c or refer to col. 11, line 1 to col. 14, line 39*).

Since the modified Harif and Tognazzini are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Harif by incorporating the teaching of Tognazzini in order to determine the time of travel from the user's location to the meeting's location.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dahan et al. (US 6018708) in view of Norris (US 5280524).

11. Regarding claim 13, Dahan et al. disclose a system comprising an input/output device and a main processing device, which are provided separately from each other, wherein the input/output device comprises: a microphone for picking up a sound produced in an oral cavity of a user (*col. 2, ln. 60-67*); and a first communication section for communicating with the main processing device (*telephone 101 in figure 1 and col. 2, ln. 60-67*), and the main processing device comprises: a second wireless communication section for communicating with the input/output device (*figures 4 or 6 and col. 2, ln. 60-67*); a database for retrievably storing a plurality of registered sounds, each of the registered sounds corresponding to a different instruction (*dictionary 403 or referring to col. 8, ln. 45-67*); and a processor controlling such that, when inputting an input sound from the input/output device through the second wireless communication section, the database is searched for an instruction corresponding to the input sound and, when the instruction is found, an operation corresponding to the instruction is performed (*col. 8, ln. 45 to col. 9, ln. 67*). Dahan et al. fail to disclose that the microphone is a bone conduction microphone mounted on a head of a user. However, Norris teaches that the microphone is a bone conduction microphone mounted on a head of a user (*bone conduction microphone/speaker 10 in figures 1-2 and 4*).

Since Dahan et al. and Norris are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the

time of invention to modify Dahan et al. by incorporating the teaching of Norris in order to reduce introduction of external noise to the signal of interest.

12. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahan et al. (US 6018708) in view of Norris (US 5280524), as applied to claim 13 above, and further in view of Tognazzini (US 5790974).

13. Regarding claim 15, Dahan et al. do not disclose a system according to claim 13, wherein the main processing device further comprises: a memory storing a plurality of programs including a telephone-calling program having a predetermined message therein; and a communication section for making a call using a public network, wherein the telephone-calling program is selected by the processor to make a call to send the predetermined message to a predetermined destination depending on the instruction.

However, Tognazzini teaches a memory storing a plurality of programs including a telephone-calling program having a predetermined message therein; and a communication section for making a call using a public network, wherein the telephone-calling program is selected by the processor to make a call to send the predetermined message to a predetermined destination depending on the instruction (*figures 4a-c or referring to col. 11, ln. 1 to col. 14, ln. 39*).

Since the modified Dahan et al. and Tognazzini are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Dahan et al. by incorporating the



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teaching of Tognazzini in order to automatically update and notify the user of his schedule.

14. Regarding claim 17, the modified Dahan et al. do not disclose a system according to claim 15, further comprising: a GPS receiver for receiving GPS signals to obtain geographical location information, wherein the predetermined message with the geographical location information is sent to the predetermined destination. However, Tognazzini further teaches a GPS receiver for receiving GPS signals to obtain geographical location information, wherein the predetermined message with the geographical location information is sent to the predetermined destination (*figures 4a-c or refer to col. 11, ln. 1 to col. 14, ln. 39*).

Since the modified Dahan et al. and Tognazzini are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Dahan et al. by incorporating the teaching of Tognazzini in order to determine the time of travel from the user's location to the meeting's location.

15. Claims 14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (US 5199080) in view of Norris (US 5280524).

16. Regarding claim 14, Kimura et al. disclose a system comprising an input/output device and a main processing device, which are provided separately from each other,

wherein the input/output device comprises: a microphone for picking up a sound produced in an oral cavity of a user (*Microphone M in figure 5*); a database for retrievably storing a plurality of registered sounds, each of the registered sounds corresponding to a different instruction (*Standard Pattern Storage Unit 5 in figure 5*); and a first processor controlling such that, when inputting an input sound from the microphone, the database is searched for an instruction corresponding to the input sound (*Digital Processor 41 in figure 7*); and a first wireless communication section for sending the instruction to the main processing device (*Infrared LED D1 in figure 5*), and the main processing device comprises: a second wireless communication section for receiving the instruction from the input/output device (*Receiver 102 in figure 1*); and a second processor controlling such that, when inputting the instruction from the input/output device through the second wireless communication section, an operation corresponding to the instruction is performed (*Controlled Device 103 in figure 1 should include processor*). Kimura et al. fail to specifically disclose that the microphone is a bone conduction microphone mounted on a head of a user. However, Norris teaches that the microphone is a bone conduction microphone mounted on a head of a user (*bone conduction microphone/speaker 10 in figures 1-2 and 4*).

Since Kimura et al. and Norris are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Kimura et al. by incorporating the teaching of Norris in order to reduce introduction of external noise to the signal of interest.

17. Regarding claim 19, Kimura et al. disclose an input/output device comprising: a microphone for picking up a sound produced in an oral cavity of a user (*Microphone M in figure 5*); a database for retrievably storing a plurality of registered sounds, each of the registered sounds corresponding to a different instruction (*Standard Pattern Storage Unit 5 in figure 5*); a processor controlling such that, when inputting an input sound from the microphone, the database is searched for an instruction corresponding to the input sound (*Digital Processor 41 in figure 7*); and an interface to an external information processing device, for sending the instruction to the external information processing device (*Infrared LED D1 in figure 5*). Kimura et al. fail to specifically disclose that the microphone is a bone conduction microphone mounted on a head of a user. However, Norris teaches that the microphone is a bone conduction microphone mounted on a head of a user (*bone conduction microphone/speaker 10 in figures 1-2 and 4*).

Since Kimura et al. and Norris are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Kimura et al. by incorporating the teaching of Norris in order to reduce introduction of external noise to the signal of interest.

18. Regarding claim 20, Kimura et al. fail to disclose a input/output device according to claim 19, further comprising: a bone conduction speaker for producing bone conduction vibrations, wherein the bone conduction speaker is mounted on the head of the user, wherein the sound signal received from the external information processing

device through the interface is output to the bone conduction speaker which converts it into bone conduction vibrations.

However, Norris further teaches a bone conduction speaker for producing bone conduction vibrations, wherein the bone conduction speaker is mounted on the head of the user, wherein the sound signal received from the external information processing device through the interface is output to the bone conduction speaker which converts it into bone conduction vibrations (*figures 1-2 and 4 used with a system having speech recognition capability in figure 5 or col. 8, lines 14-54*).

Since Kimura et al. and Norris are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Kimura et al. by incorporating the teaching of Norris in order to reduce introduction of external noise to the signal of interest.

19. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. (US 5199080) in view of Norris (US 5280524), as applied to claim 14 above, and further in view of Tognazzini (US 5790974).

20. Regarding claim 16, the modified Kimura et al. do not disclose a system according to claim 14, wherein the main processing device further comprises: a memory storing a plurality of programs including a telephone-calling program having a predetermined message therein; and a communication section for making a call using a public network, wherein the telephone-calling program is selected by the processor to

make a call to send the predetermined message to a predetermined destination depending on the instruction.

However, Tognazzini teaches a memory storing a plurality of programs including a telephone-calling program having a predetermined message therein; and a communication section for making a call using a public network, wherein the telephone-calling program is selected by the processor to make a call to send the predetermined message to a predetermined destination depending on the instruction (*figures 4a-c or referring to col. 11, ln. 1 to col. 14, ln. 39*).

Since the modified Kimura et al. and Tognazzini are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Kimura et al. by incorporating the teaching of Tognazzini in order to automatically update and notify the user of his schedule.

21. Regarding claim 18, the modified Kimura et al. do not disclose a system according to claim 16, further comprising: a GPS receiver for receiving GPS signals to obtain geographical location information, wherein the predetermined message with the geographical location information is sent to the predetermined destination. However, Tognazzini further teaches a GPS receiver for receiving GPS signals to obtain geographical location information, wherein the predetermined message with the geographical location information is sent to the predetermined destination (*figures 4a-c or refer to col. 11, ln. 1 to col. 14, ln. 39*).

Since the modified Kimura et al. and Tognazzini are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Kimura et al. by incorporating the teaching of Tognazzini in order to determine the time of travel from the user's location to the meeting's location.

22. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harif (US 6820056) in view of Norris (US 5280524), as applied to claims 1 and 7 respectively, and further in view of Oh et al. (US 6185537).

23. Regarding claim 5, the modified Harif further discloses that the determining step comprises the steps of: checking for the instruction through a display unit (*col. 6, lines 18-43*); and when receiving no negative response, finally determining the instruction to operate the computer (*col. 6, lines 18-43*); and a bone conduction microphone/speaker pair used with a speech recognition system (*see Norris figure 5 and/or 8, lines 14-54*).

The modified Harif fails to specifically disclose the checking step and the receiving step are done audibly. However, Oh et al. further teaches the steps of: d.1) checking for the instruction through a speaker (*step 76 in figure 3*); and d. 2) when receiving no negative response through the microphone, finally determining the instruction to operate the processing unit (*step 76 in figure 3*).

Since the modified Harif and Oh et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the

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art at the time of invention to further modify Harif by incorporating the teaching of Oh et al. in order to enable the user to verify recognition results without the need of looking at the monitor so that the user can perform multitasks at the same time.

24. Regarding claim 8, the modified Harif further discloses the steps of checking for the instruction through a display unit (*col. 6, lines 18-43*); and when receiving no negative response, finally determining the instruction to operate the computer (*col. 6, lines 18-43*); and a bone conduction microphone/speaker pair used with a speech recognition system (*see Norris figure 5 and/or 8, lines 14-54*); and a bone conduction speaker for producing bone conduction vibrations, wherein the bone conduction speaker is mounted on the head of the user (*see Norris figure 5 and/or col. 8, lines 14-54*). The modified Harif fails to specifically disclose the checking step and the receiving step are done audibly. However, Oh et al. further teaches the steps of: d.1) checking for the instruction through a speaker (*step 76 in figure 3*); and d. 2) when receiving no negative response through the microphone, finally determining the instruction to operate the processing unit (*step 76 in figure 3*).

Since the modified Harif and Oh et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Harif by incorporating the teaching of Oh et al. in order to enable the user to verify recognition results without the need of looking at the monitor so that the user can perform multitasks at the same time.

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamamura (US 5151944) discloses a bone conduction microphone used with a system having speech recognition capability that is considered pertinent to the claimed invention.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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2/6/2006  
  
**WAYNE YOUNG**  
**SUPERVISORY PATENT EXAMINER**